

Consider the porcupine:

another view of nuclear proliferation

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Since nations contemplating membership in the nuclear club will obviously not expose the reasoning that leads them to a decision for or against joining the club, we probably should attempt to deduce from basic or self-evident principles the factors that should influence that decision. This effort would be much simpler if the historical examples furnished by the present nuclear powers provided evidence that analysis from these principles preceded their own decisions.

If we may judge from the controversies that swirl about almost every nuclear-connected issue in the open societies (we cannot know if the governments of the

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USSR and China must also cope with this lack of unanimity), no very persuasive arguments have been advanced that establish any great utility deriving from the mere possession of nuclear weapons. Most of the time the original nuclear power acts as if it devoutly wished it had not shown the way. Despite its overwhelming nuclear superiority over many of the 30 years since the first nuclear explosion, the United States was unable to avoid direct involvement in two limited wars, though it can claim—plausibly but without proof—that superiority in nuclear power has deterred aggression against its major allies. Now that the superiority has vanished, the U.S. government cannot achieve even an internal consensus on what political objectives are to be usefully served by U.S. nuclear weapons, if, indeed, such a consensus ever existed.

In spite of this instructive example, there is still a widely held assumption that nations that aspire to act on

in case a major nuclear war actually happens.

Roughly speaking, the area covered by lethal levels of fallout may simply be found by multiplying the number of explosions (ground bursts only) by the area a single explosion would affect. Referring to the data presented above, this means that all of West Germany could in the extreme case be covered by radiation which will kill all persons in the open if only 166 one-megaton explosions took place. The corresponding numbers for France and Holland are 365 and 23 (see Table 4).

Putting all this together, it is clear that the bombardment of Western Europe by the 600 medium-range ballistic missiles deployed in the Soviet Union (or any important fraction of them) could easily eliminate virtually the entire urban population by blast alone. In addition, if a large portion of these bombs were exploded on the ground, then a major fraction of the rural population could be killed as well by the resulting nuclear fallout. The use of only one percent of the Soviet strategic forces, if added to the full use of the tactical forces, could double the explosive power brought into play.

And, in addition to the dead in Europe itself, something in the neighborhood of a million persons could die prematurely in remote parts of the world.

In summary, today's Western Europeans have chosen to buy current political stability by placing the awful risks described above over their lives and their future. Perhaps their choice was inadvertent; perhaps they did not and even today still do not realize what they have done. In that case, it would seem that they ought to know, and that they ought to reconsider their choice in the light of such knowledge. □

an international stage must expect to encounter nuclear-armed rivals, and must therefore acquire nuclear weapons of their own to avoid frustration of their ambitions. At least, this is the popular explanation for the fact that the club now has six members, and the basis for the concern that the membership may grow.

It may, nevertheless, be illogical to conclude, simply because no compelling reasons have yet been adduced, that no case can ever be made that a real political/military utility attaches to the ownership of some kind of nuclear force. The hysteria that envelops public discussion of the subject obscures the undeniable fact that nations have within their reach weapons of supreme effectiveness with which to defend their borders against all comers.

It remains to be seen whether some hitherto nuclear-naked country will opt for a nuclear defense, foregoing the risk of destruction to its potential enemies, and accept the risk that its enemies may find a reason to destroy it, though they could not capture it intact. It would be very difficult to muster a convincing degree of moral indignation against such a country, and more difficult still to argue that, by taking such action, that country had lost more than it had gained. The key distinction to be made here is between nuclear weapon systems useful only for defensive purposes and those

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systems that could be used for destruction or to retaliate for destruction. The former would be characterized by limited range and low yield if both their intended purpose and the determination to use them if necessary were to be easily perceived by potential attackers. Examples of the latter systems abound.

There are two questions for which an affirmative answer must be found by the hypothetical country considering reliance on nuclear weapons for a border defense. They are: Is it militarily feasible? And, if so, can it be done at affordable cost? With regard to the first, it is only necessary to point out that the overwhelming firepower of nuclear weapons has restored the ascendancy to defense over offense, which must maneuver to achieve its objective of taking territory away from the defense. Of course, the offense can reply indiscriminately and so destroy the prize it seeks. Given that its potential enemies have the capability to respond in this manner, and that no defense can protect it against this

Time for Europeans to debate the presence of tactical nukes

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Ever since the United States first brought tactical nuclear weapons to Europe more than 20 years ago, the role of these weapons, and the feasibility of a limited nuclear war in Europe, has been the subject of much debate. Now, however, it is

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urgent that the subject of tactical nuclear weapons be vigorously and openly debated by all the European states, not just in the closed circles of the professional strategists of war and peace, but by all thoughtful citizens of Europe—before the superpowers make decisions which may be immutable for Europe for the next 20 years.

There are many reasons why the tactical nuclear weapons are now viewed as an acute problem:

- The United States has developed a new generation of these weapons, the so-called "mini-nukes." Although the United States has not as yet deployed them, it is modernizing and miniaturizing its stockpile of 7,000 tactical nuclear weapons at the 80 depots in Europe. Inasmuch as this modernization of the stockpiles is going on now and long-term decisions are being made, which will affect events for the next 20 years or more, it is important that the subject be openly debated right now.

- Agreements at the Strategic Arms Limitation Talks (SALT) and the loss of the war in Vietnam may have increased the role of tactical nuclear weapons, as far as the United States is concerned.

- At the mutual force reduction negotiations of NATO and the Warsaw Treaty Organization, which have been going on in Vienna since 1973, NATO originally refused to discuss a reduction in the number of tactical nuclear weapons. The Warsaw Treaty countries wanted the number of weapons to be reduced by 15 to 17 percent, the same cut-

sort of attack, our hypothetical nation simply accepts the risk of gratuitous destruction.

This point bears directly on the second question of cost. The development of a retaliatory second-strike capability is indeed a costly enterprise. On the other hand, an effective defensive nuclear force could be acquired at less cost than nations now incur through procurement of expensive, sophisticated conventional weapons systems whose effectiveness is much less certain. With the defense of its borders entrusted to forces structured around the firepower of nuclear weapons, any nation not now a nuclear power, and not harboring ambitions for territorial aggrandizement, could walk like a porcupine through the forests of international affairs: no threat to its neighbors, too prickly for predators to swallow.

The possibility that some one nation will take the hypothetical role suggested here, and others would surely be tempted to follow, cannot be lightly dismissed. On balance, it is difficult to see how such a move would be destabilizing. One of the ways in which several countries could now hope to adopt this course of action would be through the assistance of powerful allies who already possess nuclear technology. The advantages to both parties would be great, particularly for those nations which today rely on their own retaliatory nuclear

power to deter attacks on their allies, thereby risking their own destruction if that deterrence fails. The principal obstacle appears to be the emotionalism, a legacy of Hiroshima and Nagasaki, that has blocked recognition of the nuclear weapon as the dominant force on the battlefield and sees it only as an agency of indiscriminate destruction.

One of the dangers to be avoided is a futile attempt to project the current nuclear state of affairs indefinitely into the future. Should the erection of nuclear defenses ever become widespread, a possibility that does not crucially depend on who today has nuclear reactors or uranium mines, territorial aggression could become an obsolete human endeavor.

The world would still have the problem of renegade nations that would choose to pose the threat of destruction to other nations. But the world has lived with this threat for three decades, and the proliferation of effective defenses could not disturb the precarious stability we must accept today. In fact, in a world in which nations could deny their substance to any aggressor without threatening anyone, destructive strategic nuclear weaponry could become anachronistic. The control of arms could then enjoy some prospect of real success, and perhaps the world could then turn to more productive, though not less urgent, matters. □

back proposed for other forces. Recently, however, NATO finally included tactical nuclear weapons in the on-going negotiations: in offering to withdraw 29,000 U.S. troops and 1,000 nuclear warheads in return for the withdrawal of 68,000 Soviet troops and 1,700 Soviet tanks, NATO thereby included these weapons in the negotiations.

If the negotiations between NATO and the Warsaw Treaty countries result in reduction of forces in Central Europe, the risk of the use of tactical nuclear weapons in the flanks increases, as those reinforcements which are now earmarked for the flanks may be needed in the center.

In short, on all levels, the tactical nuclear weapon is being developed from a somewhat clumsy, dirty, inaccurate deterrent to a sophisticated, accurate, "clean," flexible, invulnerable fighting weapon primarily intended for real use. This is undesirable—and possibly a disastrous development.

The presence of over 10,000 U.S. and Soviet tactical nuclear weapons does not increase security in Europe.

On the contrary, these weapons increase the risk that a catastrophic conflict may break out in a fast developing, dynamic crisis, when both sides hurry to secure their routes of communication, to occupy forward positions and perhaps to take buffer states under their control as happened in World War II. Perhaps even a few tactical nuclear weapons will be used unintentionally or intentionally in such a nervous atmosphere. The weapons are dangerous because there exist only ambiguous, diffuse doctrines for their use, doctrines which are so secret in their detail that they are difficult to discuss.

Arguments for Weapons

I am, nonetheless, aware of the arguments which are presented in favor of these weapons:

- Tactical nuclear weapons increase stability by increasing deterrence.
- There is no need for the European nations to produce their own tactical nuclear weapons when the weapons of the superpowers are available to them.

- The presence of these weapons requires the presence of the United States and the Soviet Union in Europe, which guarantees the links to the strategic umbrellas.

- Tactical nuclear weapons are needed for the NATO triad to balance the Warsaw Treaty Organization's superiority in tanks and manpower, and they are needed for the Warsaw Treaty countries to counter the possible first use of tactical nuclear weapons by NATO.

- And the most common American justification—"We need the Soviet tactical nuclear weapons to deter the possible first use by West Germany in case of a sudden crisis."

The United States has been the driving force in the development and deployment of these weapons. The Soviet Union has only followed, though in recent years its program for developing tactical nuclear weapons has seemed to acquire a life of its own. Production has gone up so much that the Soviet Union has been able to give such typical nuclear weapon launchers as SCUD-B and FROG-7 to Syria and Yugoslavia, although evidently